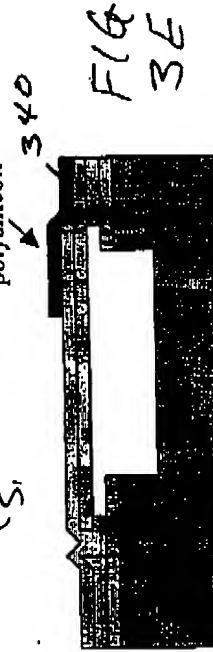


4. Remove oxide and PSG by 48%HF.

Deposit nitride

polysilicon



5. Deposit, dope and pattern polysilicon.

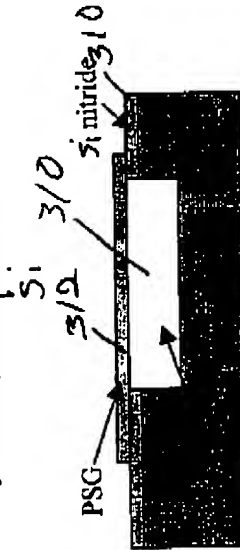
350



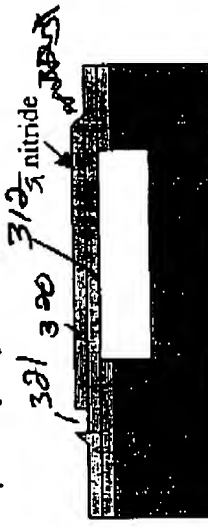
6. Deposit nitride as passivation layer and Al metallization.



1. Deposit and pattern nitride.



2. Local oxidation. Deposit and pattern phosphosilicate glass (PSG).



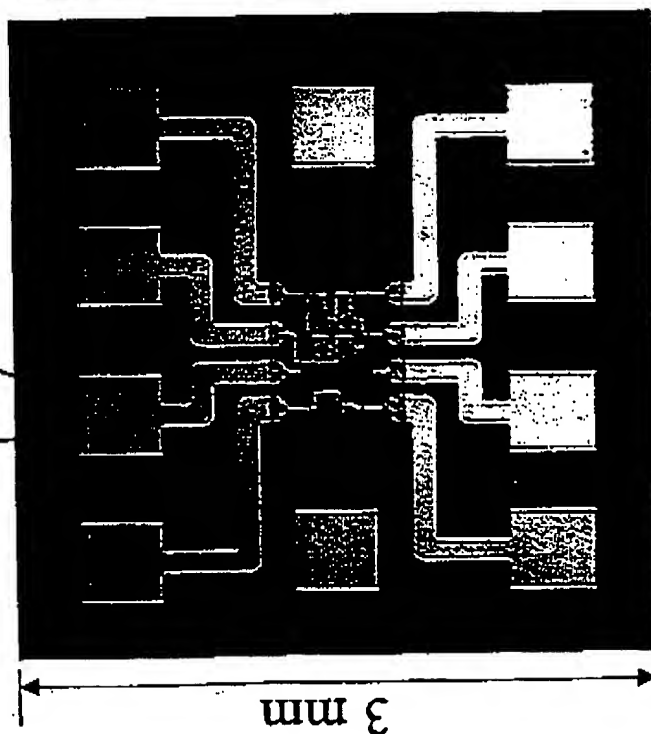
3. Deposit nitride and open etching holes.

FIG 5



Chip wire-bonded to metal header

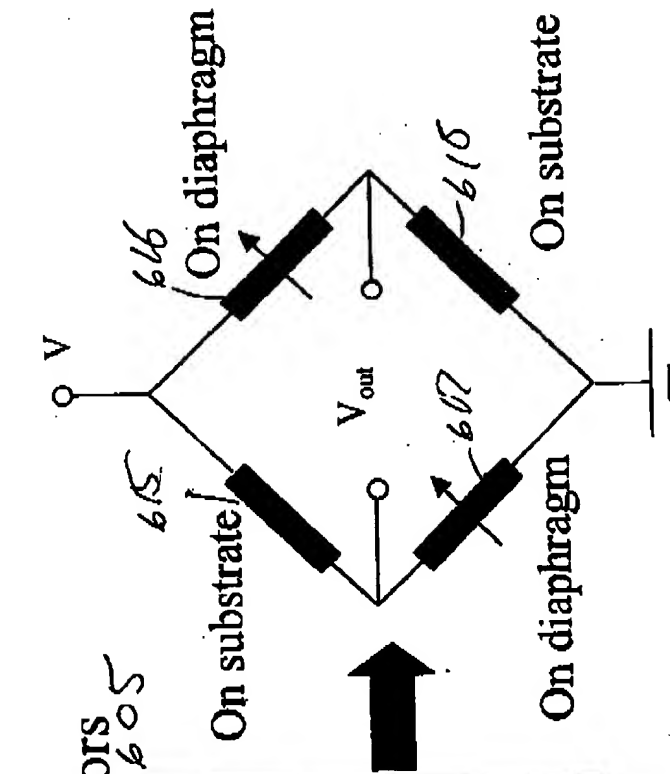
FIG 40° Al pads



3 mm

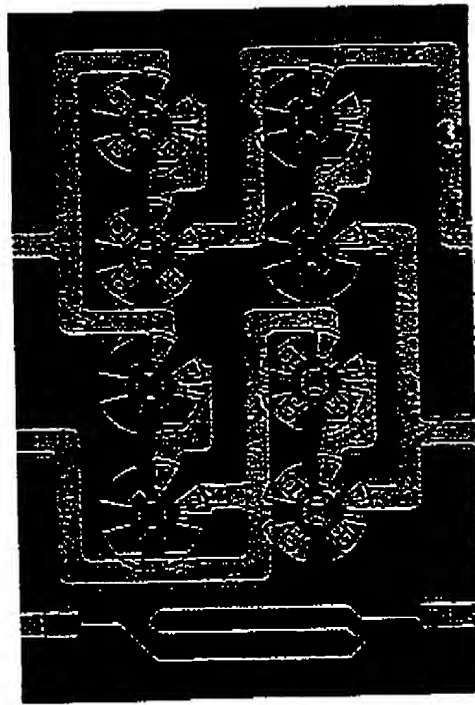
Diced sensor chip

3 mm



Wheatstone bridge

Polysilicon thermistor Pressure sensor:
8 polysilicon resistors



4 nitride Diaphragms

Multi-diaphragm configuration:

- minimize self-heating effect
- make layout much easier

FIG 6

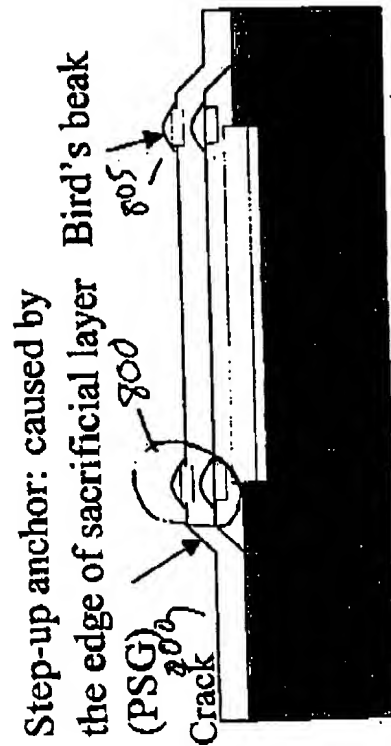


FIG 8
Cross section of sensor diaphragm

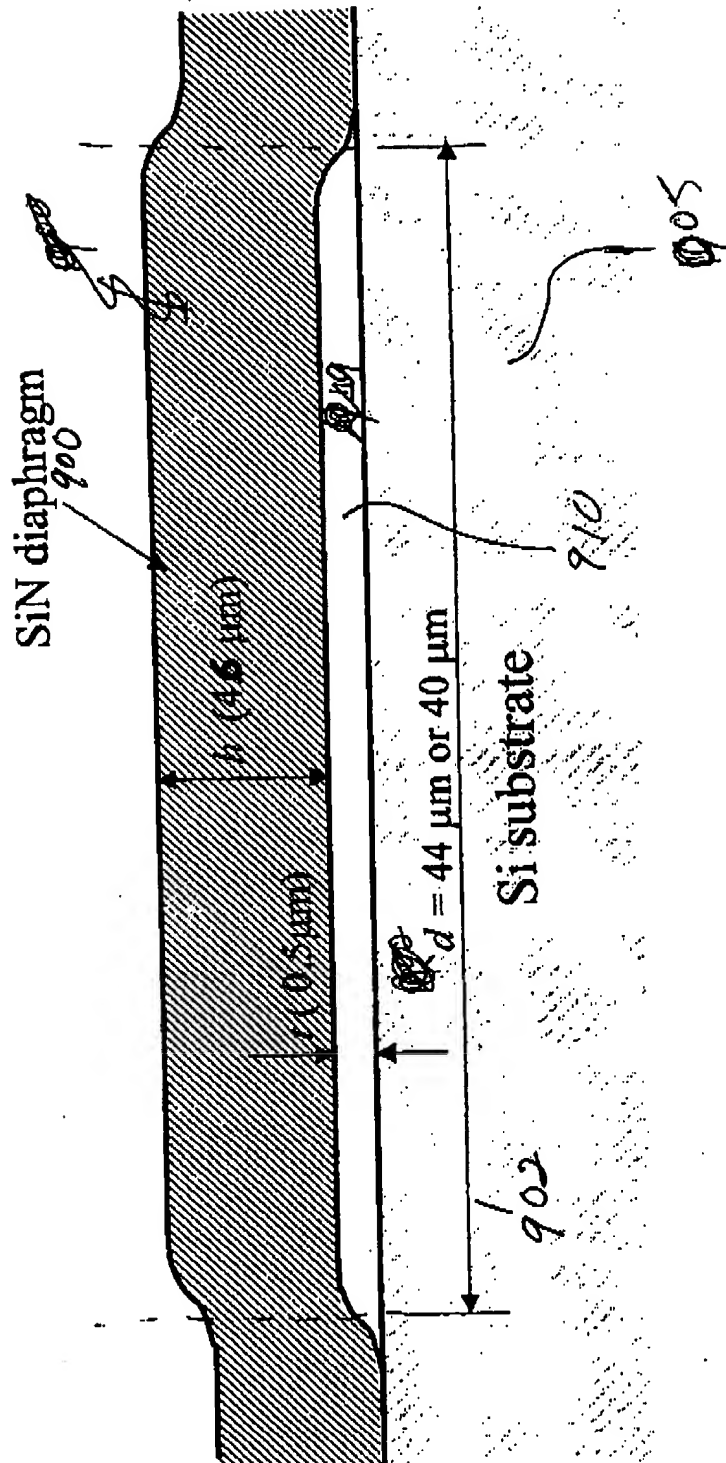


FIG 9

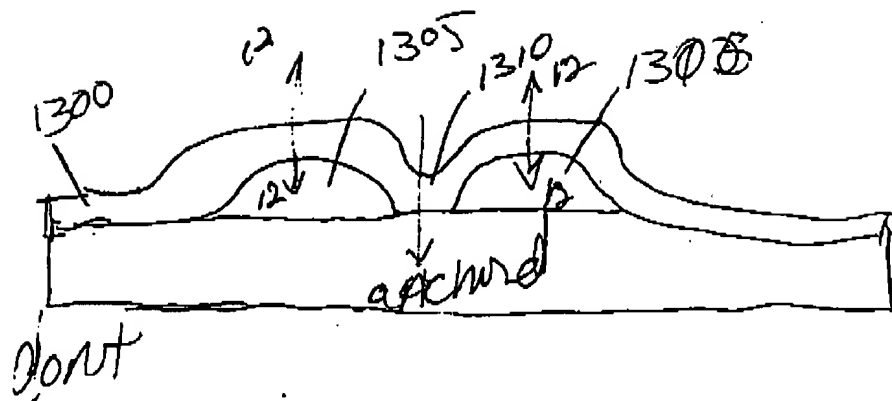
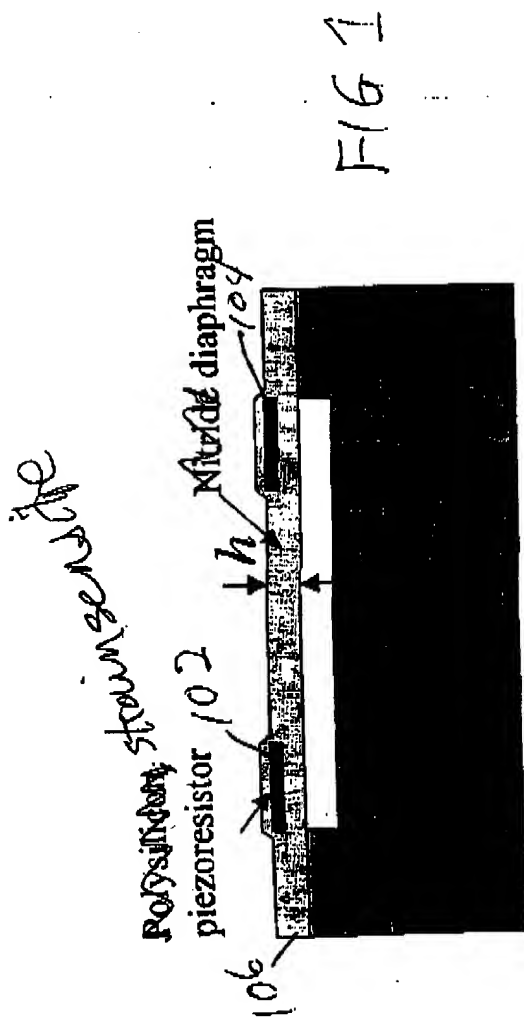


FIG 13



Cross section of surface-micromachined high-pressure sensor
piezoresistor